

(FILE 'HOME' ENTERED AT 17:56:05 ON 28 SEP 2003)

FILE 'REGISTRY' ENTERED AT 17:56:19 ON 28 SEP 2003

L1 STRUCTURE uploaded  
L2 0 S L1  
L3 48 S L1 FUL  
L4 0 S BENZAL/CN

FILE 'REGISTRY' ENTERED AT 17:57:49 ON 28 SEP 2003

L5 0 S BENZAL/CN  
L6 1 S BENZAL BROMIDE/CN  
L7 1 S BROMINE/CN

FILE 'CAPLUS, USPATFULL' ENTERED AT 17:59:20 ON 28 SEP 2003

L8 38 S L3  
L9 146 S L6  
L10 31230 S L7  
L11 0 S L8 AND L9  
L12 0 S L8 AND L10

FILE 'REGISTRY' ENTERED AT 18:02:03 ON 28 SEP 2003

L13 STRUCTURE uploaded  
L14 1 S L13  
L15 12 S L13 FUL

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:02:50 ON 28 SEP 2003

L16 2321 S L15  
L17 2 S L8 AND L16

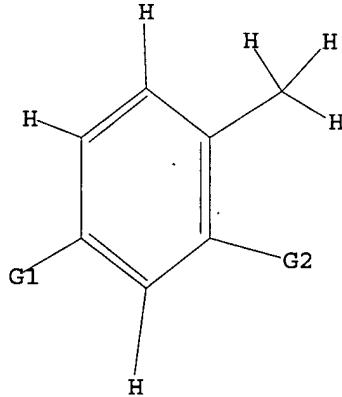
FILE 'CASREACT' ENTERED AT 18:08:05 ON 28 SEP 2003

L18 STRUCTURE uploaded  
L19 0 S L18  
L20 13 S L18 FUL

=> d 11

L1 HAS NO ANSWERS

L1 STR



G1 Br, F

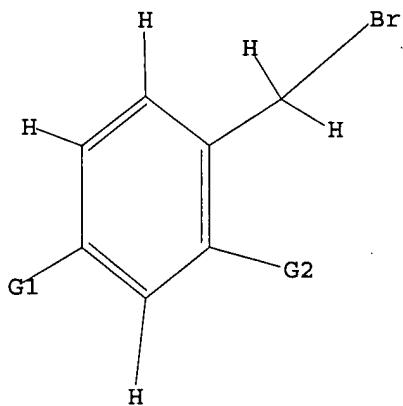
G2 H, F

Structure attributes must be viewed using STN Express query preparation.

=> d 113

L13 HAS NO ANSWERS

L13 STR



G1 Br,F

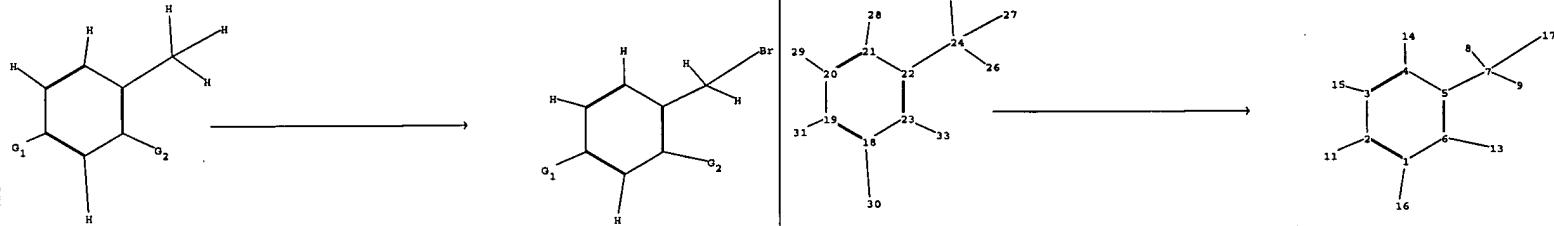
G2 H,F

Structure attributes must be viewed using STN Express query preparation.

=> d 118  
L18 HAS NO ANSWERS  
L18 STR

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

Structure attributes must be viewed using STN Express query preparation.



chain nodes :

7 8 9 11 13 14 15 16 17 24 25 26 27 28 29 30 31 33

ring nodes :

1 2 3 4 5 6 18 19 20 21 22 23

chain bonds :

1-16 2-11 3-15 4-14 5-7 6-13 7-8 7-9 7-17 18-30 19-31 20-29 21-28 22-24 23-33  
24-25 24-26 24-27

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-23 19-20 20-21 21-22 22-23

exact/norm bonds :

2-11 6-13 19-31 23-33

exact bonds :

1-16 3-15 4-14 5-7 7-8 7-9 7-17 18-30 20-29 21-28 22-24 24-25 24-26 24-27

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-23 19-20 20-21 21-22 22-23

G1:Br,F

G2:H,F

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 11:CLASS  
13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom  
22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS  
31:CLASS 33:CLASS

fragments assigned product role:

containing 1

fragments assigned reactant/reagent role:

containing 18

reaction site bonds:

7-17:XC

L20 ANSWER 1 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
 AN 139:6671 CASREACT  
 TI Process for chemoselective thermal benzylic bromination  
 IN Mortensen, Max K.; Elnagar, Hassan Y.; Roy, Ranjit K.; Herndon, Robert C.;  
 Allen, Robert H.; Caillet, David A.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 7 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

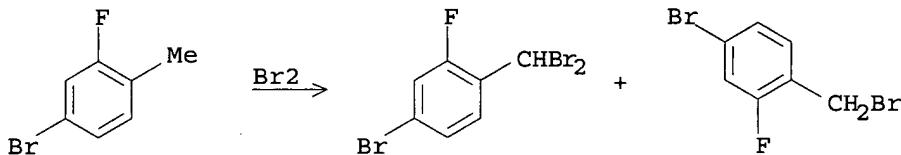
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003105350	A1	20030605	US 2001-10404	20011205
	WO 2003055833	A1	20030710	WO 2002-US39291	20021205

W: CA, JP  
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT,  
 LU, MC, NL, PT, SE, SI, SK, TR

PRAI US 2001-10404 20011205

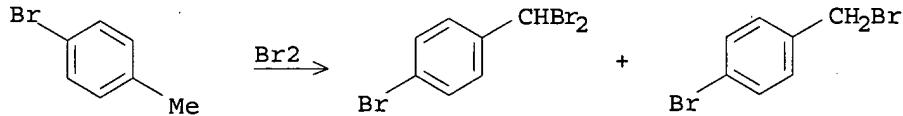
AB A thermal benzylic bromination process for producing a benzyl bromide comprises: (A) contacting gaseous bromine with a reaction mixt. having an org., liq. phase initially comprising an (un)substituted arom. ring-contg. compd. bearing one benzylic carbon atom (e.g., p-bromotoluene), the total amt. of bromine used relative to the arom. compd. being 0.2-1.2 mol of bromine per mol of arom. compd.; (B) thoroughly dispersing the gaseous bromine into the liq. phase, such that localized bromine accumulation is suppressed; and (C) maintaining the temp. of the liq. phase at 100-170.degree. so as to be sufficient to effect benzylic bromination of said the benzylic Me group (e.g., producing p-bromobenzyl bromide and p-bromobenzal bromide).

RX(1) OF 2



REF: U.S. Pat. Appl. Publ., 2003105350, 05 Jun 2003  
 NOTE: gas phase, thermal, no solvent, chemoselective

RX(2) OF 2



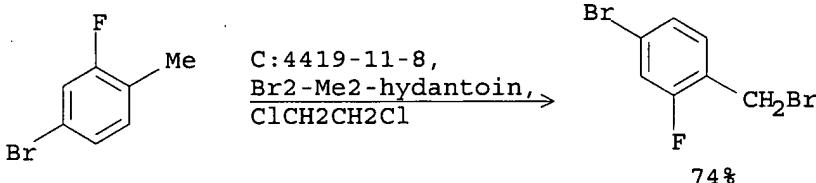
REF: U.S. Pat. Appl. Publ., 7 pp.; 2003  
 NOTE: gas phase, alternative prepns. shown, thermal, no solvent, chemoselective

L20 ANSWER 2 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
 AN 133:252150 CASREACT  
 TI Preparation of 4-bromo-2-fluorobenzyl bromide  
 IN Yaginuma, Yutaka; Sugisaki, Toru; Maruta, Hiroaki; Ohashi, Masao  
 PA Seimi Chemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokyo Koho, 5 pp.  
 CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000281600	A2	20001010	JP 1999-86715	19990329
PRAI	JP 1999-86715		19990329		
AB	The title compd. (I) is prep'd. by reaction of 4-bromo-2-fluorotoluene (II) with 1,3-dibromo-5,5-dimethylhydantoin (III) in the presence of radical initiators. Thus, reaction of II with III in $\text{ClCH}_2\text{CH}_2\text{Cl}$ in the presence of azobis(2,4-dimethylvaleronitrile) gave 74.8% I.				

RX(1) OF 1

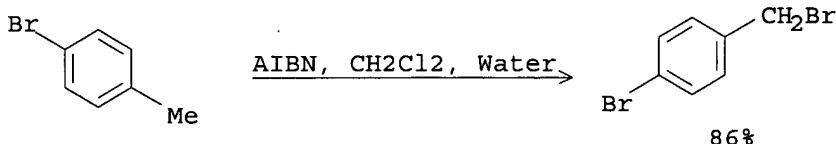


REF: Jpn. Kokai Tokkyo Koho, 2000281600, 10 Oct 2000

L20 ANSWER 3 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
AN 130:352075 CASREACT  
TI Preparation of electron-withdrawing group-substituted (monobromomethyl)benzenes from their corresponding methylbenzenes  
IN Awano, Hiroshi; Shimoda, Atsushi; Kubo, Masashige  
PA Tosoh Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11130708	A2	19990518	JP 1997-298295	19971030
PRAI	JP 1997-298295		19971030		
OS	MARPAT 130:352075				
AB	In $\alpha$ -bromination of $\text{RC}_6\text{H}_4\text{Me}$ ( $\text{R} = \text{NO}_2$ , halo, $\text{CF}_3$ , cyano, $\text{CO}_2\text{H}$ , alkoxy carbonyl, $\text{PhO}$ ), radical initiators chosen from dialkyl peroxides, diacyl peroxides, and azo compds. are used as catalysts in the presence of $\text{H}_2\text{O}$ . $\text{P}$ -bromotoluene was brominated in the presence of AIBN at 35.degree. for 17 h in $\text{CH}_2\text{Cl}_2\text{-H}_2\text{O}$ mixt. to give 86.2% $\text{p}$ -bromobenzyl bromide.				

RX(1) OF 1

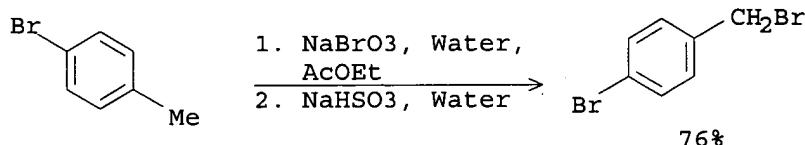


REF: Jpn. Kokai Tokkyo Koho, 11130708, 18 May 1999, Heisei

L20 ANSWER 4 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
AN 129:230486 CASREACT  
TI An Alternative Method for the Selective Bromination of Alkylbenzenes Using  $\text{NaBrO}_3/\text{NaHSO}_3$  Reagent  
AU Kikuchi, Daisuke; Sakaguchi, Satoshi; Ishii, Yasutaka

CS Department of Applied Chemistry Faculty of Engineering, Kansai University,  
Suita, Osaka, 564-8680, Japan  
SO Journal of Organic Chemistry (1998), 63(17), 6023-6026  
CODEN: JOCEAH; ISSN: 0022-3263  
PB American Chemical Society  
DT Journal  
LA English  
AB The chemoselective bromination of alkylbenzene derivs. was achieved using a sodium bromate/sodium hydrogen sulfite reagent.

RX(4) OF 20



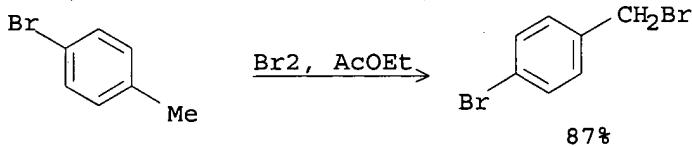
REF: Journal of Organic Chemistry, 63(17), 6023-6026; 1998  
NOTE: chemoselective

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
AN 129:95310 CASREACT  
TI Preparation of aromatic monobromomethyl compounds  
IN Kageyama, Hideki  
PA Nippon Synthetic Chemical Industry Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10175883	A2	19980630	JP 1996-352745	19961212
PRAI	JP 1996-352745		19961212		
AB	Title compds. are prep'd. by bromination of benzyl position of arom. compds. with Br in ester contg. CH adjacent to CO group and/or ketone solvents. 4-BrC6H4Me was brominated with Br in AcOEt under reflux and irradn. of incandescent light for 4 h to give 87% 4-BrC6H4CH2Br.				

RX(1) OF 2

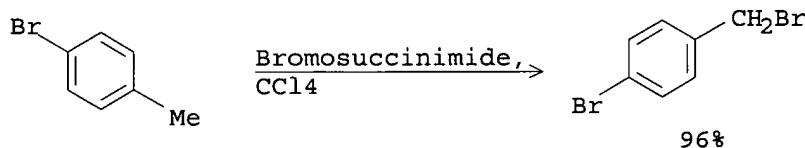


REF: Jpn. Kokai Tokkyo Koho, 10175883, 30 Jun 1998, Heisei  
NOTE: photochem.

L20 ANSWER 6 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
AN 126:30976 CASREACT  
TI The spin-delocalization substituent parameter .sigma.JJ.bul.. Part 10. The spin-delocalizing abilities of the para-trifluorovinyl and para-acetoxy groups. Synthesis of para-trifluorovinyl-, para-vinyl- and para-acetoxy-.alpha.,.beta.,.beta.-trifluorostyrenes  
AU Jiang, Xi-Kui; Ji, Guo-Zhen; Wang, Daniel Ze-Rong

CS Shanghai Institute of Organic Chemistry, 354 Feng-Lin Lu, Shanghai,  
 200032, Peop. Rep. China  
 SO Journal of Fluorine Chemistry (1996), 79(2), 173-178  
 CODEN: JFLCAR; ISSN: 0022-1139  
 PB Elsevier  
 DT Journal  
 LA English  
 AB para-Trifluorovinyl .alpha.,.beta.,.beta.-trifluorostyrene (1-CF:CF2),  
 p-acetoxy .alpha.,.beta.,.beta.-trifluorostyrene (1-AcO) and p-vinyl  
 .alpha.,.beta.,.beta.-trifluorostyrene (1-CH:CH2) have been synthesized.  
 The rate consts. (k) for the thermal cyclodimerization of 1-CF:CF2 and  
 1-AcO have been measured over the temp. range 90-130 .degree.C for  
 1-CF:CF2 and 110-160 .degree.C for 1-AcO. The .vsigma. mb polar  
 substituent consts. of the p-CF:CF2, p-CH:CH2 and p-AcO groups calcd. from  
 the 19F NMR chem. shifts are: for p-CF:CF2, 0.40; for p-CH:CH2, 0.03; and  
 for p-AcO, -0.14, and the .vsigma.JJ.bul. spin-delocalization substituent  
 consts. of the p-CF:CF2 and p-AcO groups are 0.86 and 0.35, resp., i.e.,  
 the former is a highly effective spin-stabilizer while the latter is  
 moderately effective. Owing to the occurrence of a small amt. of  
 side-reaction, the .vsigma.JJ.bul. value of the p-CH:CH2 group could not  
 be accurately measured, but it was very roughly estd. to be in the range  
 of 0.50-0.66.

RX(2) OF 14



REF: Journal of Fluorine Chemistry, 79(2), 173-178; 1996

L20 ANSWER 7 OF 13 CASREACT COPYRIGHT 2003 ACS on STN

AN 111:57976 CASREACT

TI Effect of structure factors on the rate of bimolecular homolytic  
 substitution at carbon in benzylcobalt complexes

AU Dneprovskii, A. S.; Kostochkin, A. N.; Kondakov, D. Yu.

CS Leningr. Gos. Univ., Leningrad, USSR

SO Zhurnal Organicheskoi Khimii (1988), 24(5), 923-9

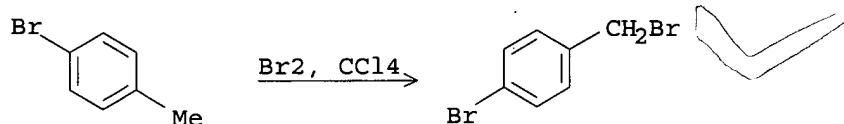
CODEN: ZORKAE; ISSN: 0514-7492

DT Journal

LA Russian

AB Treating  $RC_6H_4CH_2Co(L)2PyH$  (R = H, 3- and 4-Me, 3- and 4-Br, 3- and 4-O<sub>2</sub>N; L = dimethylglyoxime monoanion; PyH = pyridine) with BrCCl<sub>3</sub> in CHCl<sub>3</sub> gives primarily  $RC_6H_4CH_2CCl_3$  (same R) via a bimol. homolytic substitution reaction; the corresponding  $RC_6H_4CH_2Br$  are also formed. The rate of substitution increases with the increase in electron-donating properties of the substituents on the arom. ring. Equimol. amts. of added pyridine or imidazole show practically no effect on the rate of reaction.

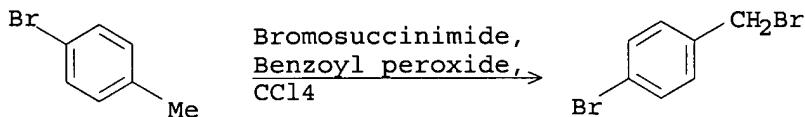
RX(13) OF 29



REF: Zhurnal Organicheskoi Khimii, 24(5), 923-9; 1988

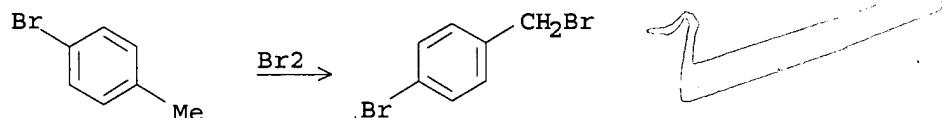
L20 ANSWER 8 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
 AN 102:149497 CASREACT  
 TI Isolation and characterization of reactive intermediates and active catalysts in homogeneous catalysis  
 AU Gassman, Paul G.; Macomber, David W.; Willging, Stephen M.  
 CS Dep. Chem., Univ. Minnesota, Minneapolis, MN, 55455, USA  
 SO Journal of the American Chemical Society (1985), 107(8), 2380-8  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English  
 AB A new method has been developed for the isolation and characterization of highly reactive intermediates and of active catalysts in homogeneous catalysis by transition-metal complexes. Using the principles of steric exclusion type chromatog., a method has been devised for the isolation of highly reactive intermediates on the surface of porous polymer films. Anal. of these surface-isolated intermediates by XPS (ESCA) provided detailed information about the transition-metal complexes that resided on the surface of the polymer film. The utility of this process was demonstrated by a reanal. of the decarbonylation of acid chlorides using chlorotris(triphenylphosphine)rhodium(I) (Wilkinson's catalyst). Through the utilization of the concepts and techniques described above, the active catalytic intermediate involved in the metathesis-promoted polymn. of cyclopentene to polypentenomer by oxotetrachlorotungsten-ethylaluminum dichloride was isolated on the surface of porous polystyrene film. This technique was viable because the active catalyst had to be attached to the end of the growing polymer chain. Anal. of the surface-isolated catalyst by XPS showed a ratio of W:O:Al:Cl of 1:1:1:4-5. The tungsten showed a binding energy of 36.0 and 38.2 eV [W(4f7/2) and W(4f5/2), resp]. This intermediate species was very labile. On treatment with trimethylphosphine, this catalyst was converted into a new tungsten complex (noncatalytic) that showed binding energies of 34.0 and 36.2 eV for W(4f7/2) and W(4f5/2), resp. These values can be compared to values of 34.1 and 36.3 eV for Schrock's stable tungsten-alkylidene complex, W(O)(CHCMe<sub>3</sub>)Cl<sub>2</sub>(PEt<sub>3</sub>)<sub>2</sub>.

RX(15) OF 64



REF: Journal of the American Chemical Society, 107(8), 2380-8; 1985

L20 ANSWER 9 OF 13 CASREACT COPYRIGHT 2003 ACS on STN  
 AN 100:138318 CASREACT  
 TI Effect of the 1-adamantyl substituent on homolytic bromination of toluenes substituted in the ring  
 AU Rakhimov, A. I.; Ozerov, A. A.; Litinskii, A. O.  
 CS Volgogr. Politekh. Inst., Volgograd, USSR  
 SO Zhurnal Organicheskoi Khimii (1983), 19(12), 2630  
 CODEN: ZORKAE; ISSN: 0514-7492  
 DT Journal  
 LA Russian  
 AB The relative rate consts. for bromination of 4-RC<sub>6</sub>H<sub>4</sub>R<sub>1</sub> (I; R = 1-adamantyl; R<sub>1</sub> = Me, CH<sub>2</sub>Br, CHBr<sub>2</sub>) with respect to I (R = H; same R<sub>1</sub>) were 3.29, 2.24, and 1.77, resp. These values were too high to fit an LFER with  $\sigma_{+}$ , which was obeyed by several other I (R noteq. 1-adamantyl).



REF: Zhurnal Organicheskoi Khimii, 19(12), 2630; 1983

L20 ANSWER 10 OF 13 CASREACT COPYRIGHT 2003 ACS on STN

AN 97:181952 CASREACT

TI 2-Arylethyl ethers and sulfides as insecticides and acaricides

IN Nakatani, Kiyoshi; Numata, Satoshi; Inoue, Tsuneo; Hosono, Akira; Oda, Kengo; Kubota, Yutaka; Tachibana, Hajime; Udagawa, Takatoshi; Gohbara, Masatoshi

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Fr. Demande, 96 pp.

CODEN: FRXXBL

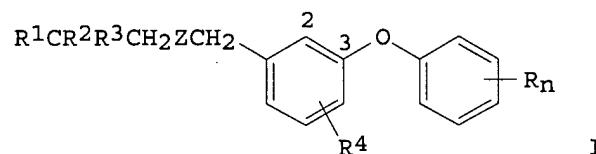
DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2491924	A1	19820416	FR 1981-18848	19811007
	FR 2491924	B1	19840316		
	JP 57064632	A2	19820419	JP 1980-140600	19801009
	JP 63055500	B4	19881102		
	AU 8175549	A1	19820422	AU 1981-75549	19810922
	AU 534931	B2	19840223		
	IN 155418	A	19850126	IN 1981-CA1111	19811003
	GB 2085006	A	19820421	GB 1981-30242	19811007
	GB 2085006	B2	19850411		
	CH 649523	A	19850531	CH 1981-6439	19811007
	NL 8104586	A	19820503	NL 1981-4586	19811008
	NL 190984	B	19940701		
	NL 190984	C	19941201		
	DE 3139976	A1	19820603	DE 1981-3139976	19811008
	DE 3139976	C2	19900315		
	BR 8106509	A	19820629	BR 1981-6509	19811008
	HU 30339	O	19840328	HU 1981-2912	19811008
	HU 190521	B	19860929		
	CA 1210407	A1	19860826	CA 1981-387674	19811009
	US 4599362	A	19860708	US 1983-552871	19831118
PRAI	JP 1980-140600		19801009		
	US 1981-304964		19810923		

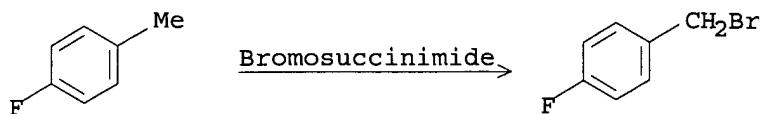
GI



AB Title compds. (I; n = 1, 2; R = H, halo, alkyl, alkoxy; R1 = aryl; R2 = halo, Me, OMe; R3 = H, Me, Et; Z = O, S; R4 = halo, Me, OMe) were prep'd.; they exhibit insecticidal activity and are useful as acaricides (no data). Thus, 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH was treated with NaH and 3-(4-bromophenoxy)-4-fluorobenzyl bromide to give I (Rn = 4-Br, R1 = 4-ClC<sub>6</sub>H<sub>4</sub>, R2 = R3 = Me, Z

= O, R4 = 4-F).

RX(8) OF 37



REF: Fr. Demande, 2491924, 16 Apr 1982

L20 ANSWER 11 OF 13 CASREACT COPYRIGHT 2003 ACS on STN

AN 52:6440 CASREACT

TI p-Fluorotropic acid and p-fluoroatropine

AU Berger, R. S.; Jacobson, A. E.; Kondritzer, A. A.

CS Army Chem. Center, MD

SO Journal of Organic Chemistry (1957), 22, 451-2

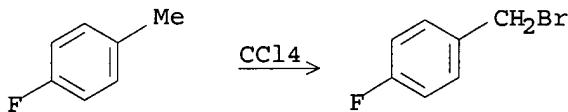
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

AB The prepn. of p-fluoroatropine (I) through a series of reactions starting with p-FC<sub>6</sub>H<sub>4</sub>Me (II) is reported. There are no previous reports of atropine modified by substituents on the aromatic ring. II (11 g.) refluxed 2 hrs. in 10 ml. CCl<sub>4</sub> with 15 g. N-bromosuccinimide and the filtrate distd. gave 12.8 g. p-FC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Br (III), b<sub>27</sub> 92-102.degree., nD 1.547. KCN (6.5 g.) in 12 ml. H<sub>2</sub>O refluxed 3 hrs. with 11.9 g. III in 30 ml. 95% alc. gave 5.3 g. p-FC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN (IV), b<sub>25</sub> 120-9.degree. nD 1.499. IV gave the corresponding p-FC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>H (V). V (3.3 g.) in 50 ml. C<sub>6</sub>H<sub>6</sub> refluxed 3.5 hrs. with iso-PrMgCl (from 4.2 g. iso-PrCl and 1.2 g. Mg) in Et<sub>2</sub>O, gaseous HCHO passed into the cooled mixt. from 1.72 g. paraformaldehyde heated at 180-200.degree., stirring continued 0.5 hr., and the complex hydrolyzed by pouring onto 100 ml. ice and 7 ml. concd. H<sub>2</sub>SO<sub>4</sub> gave 2.56 g. p-fluorotropic acid (VI), m. 99.5-100.degree. (C<sub>6</sub>H<sub>6</sub>). Tropine, m. 63-4.5.degree., in Et<sub>2</sub>O treated with dry HBr gave the HBr salt (VII), decomp. 235-60.degree., for use in the esterification of VI. VI (0.74 g.) mixed with 2 ml. AcCl and, after the initial heating, heated 20 min. at 90-5.degree., the excess AcCl removed, the mixt. heated 1.5 hrs. at 90-5.degree. with 4 ml. SOCl<sub>2</sub>, the excess SOCl<sub>2</sub> removed, and the mixt. heated 1 hr. with 0.80 g. VII, then 1 hr. with a drop of concd. HCl and 2 ml. H<sub>2</sub>O, and the product isolated gave 0.29 g. I, m. 94-5.degree. (CHCl<sub>3</sub>-lignoine); picrate, m. 181-3.degree.. The yield of I dropped to zero when the reaction temp. was lowered 20.degree... I tested in rats for activity against Sarin showed therapeutic activity approx. the same as that of atropine.

RX(1) OF 1



REF: Journal of Organic Chemistry, 22, 451-2; 1957

NOTE: Classification: Bromination; # Conditions: NBS; CCl<sub>4</sub>; Rf 2h; 77 deg

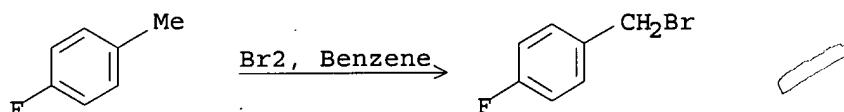
L20 ANSWER 12 OF 13 CASREACT COPYRIGHT 2003 ACS on STN

AN 43:31736 CASREACT

TI Antihistamine agents. IV. Halogenated N,N-dimethyl-N'-benzyl-N'-2-pyridylethylenediamines

AU Vaughan, J. R., Jr.; Anderson, G. W.; Clapp, R. C.; Clark, J. H.; English, J. P.; Howard, K. L.; Marson, H. W.; Sutherland, L. H.; Denton, J. J.  
 SO Journal of Organic Chemistry (1949), 14, 228-34  
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 DT Journal  
 LA Unavailable  
 AB Condensation of N,N-dimethyl-N'-2-pyridylethylenediamine with the appropriate halogenated benzyl halide in the presence of an alkali amide or hydride gave 40-60% yields of the following N,N-dimethyl-N'-2-pyridylethylenediamines: N'-4-fluorobenzyl, b0.25 130-45.degree., nD23 1.5635, m. 52-3.degree. (mono-HCl salt, m. 169.5-70.5.degree.); N'-4-chlorobenzyl (I), b1.5 178-85.degree. (mono-HCl salt, m. 172-3.6.degree.); N'-2-chlorobenzyl, b1 161-4.degree. (mono-HCl salt, m. 203-4.5.degree.); N'-4-bromobenzyl, b0.5-1.0 184-90.degree. (mono-HCl salt, m. 184-6.degree.); N'-3-bromobenzyl (II), b1 176-8.degree. (mono-HCl salt, m. 169-70.degree.); N'-4-iodobenzyl, b1 194-207.degree., nD25 1.6144 (mono-HCl salt, m. 200-2.degree.). Direct bromination of N,N-dimethyl-N'-benzyl-N'-2-pyridylethylenediamine yielded N,N-dimethyl-N'-benzyl-N'-(5-bromo-2-pyridyl) ethylenediamine (mono-HCl salt, m. 180-2.degree.). An alternative synthesis of this compd. from N,N-dimethyl-N'-(5-bromo-2-pyridyl)-ethylenediamine and PhCH<sub>2</sub>Cl proved the orientation of the substituent. Direct bromination of II gave N,N-dimethyl-N'-3-bromobenzyl-N'-(5-bromo-2-pyridyl) ethylenediamine (mono-HCl salt, m. 146.5-7.5.degree.). N,N-Dimethyl-N'-benzyl-N'-(5-chloro-2-pyridyl) ethylenediamine (mono-HCl salt, m. 179-80.degree.) was obtained from 5-chloro-2-benzyl-aminopyridine (III) and Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>Cl, using LiNH<sub>2</sub>. III was prep'd. by refluxing 2-amino-5-chloropyridine, anhyd. HCO<sub>2</sub>H, and redistd. BzH 16 hrs., pouring into 50% NaOH and ice, and drying the solid product, m. 114-15.2.degree.. When the Li deriv. of 2-(4-chlorobenzyl-amino) pyridine (obtained from 2-aminopyridine, 4-ClC<sub>6</sub>H<sub>4</sub>CHO, and HCO<sub>2</sub>H) was treated with Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>Cl, none of the desired compd. was isolated. p-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub> heated with 2-bromopyridine in quinoline gave I. On comparison with pyribenzamine (IV) those derivs. halogenated in the 4-position of the benzyl group showed the highest antihistamine activity, which increased as the electronegativity of the substituent increased and the at. wt. decreased from iodo to F. The 4-bromobenzyl deriv. had approx. the same activity as IV, the 4-F deriv. was 3-4 times as active. N,N-Dimethyl-N'-2-pyridylethylenediamine with 1-C<sub>10</sub>H<sub>7</sub>CH<sub>2</sub>Cl and C<sub>6</sub>H<sub>13</sub>Br gave, resp., N,N-dimethyl-N'-1-naphthylmethyl-N'-2-pyridylethylenediamine, b1 200.degree., m. 95.degree. (mono-HCl salt, m. 224-6.degree.), and N,N-dimethyl-N'-hexyl-N'-2-pyridylethylenediamine, b1 136-46.degree., nD31.5 1.5090 (mono-HCl salt, m. 104-5.degree.). Reaction of 2-benzylaminopyridine with ClCH<sub>2</sub>COCl, followed by reaction with Et<sub>2</sub>NH and Me<sub>2</sub>NH, resp., gave N-benzyl-N-2-pyridyl-.alpha.-diethylaminoacetamide-HCl, m. 147-8.5.degree., and N-benzyl-N-2-pyridyl-.alpha.-dimethylaminoacetamide-HCl, m. 181-4.degree., in low yield. The last 4 compds. were inactive as antihistamine agents in vitro.

RX(1) OF 2

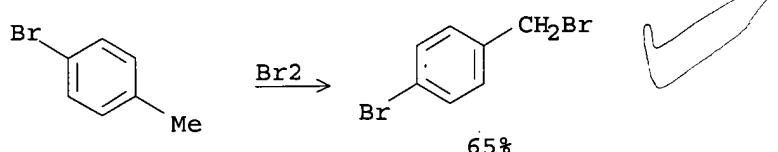


REF: Journal of Organic Chemistry, 14, 228-34; 1949  
 NOTE: Classification: Bromination; # Conditions: Br<sub>2</sub>; benzene; hν

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 AN 40:8310 CASREACT  
 TI p-Bromobenzyl bromide  
 AU Weizmann, M.; Patai, S.

CS Hebrew Univ., Jerusalem  
SO Journal of the American Chemical Society (1946), 68, 150-1  
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AB p-BrC<sub>6</sub>H<sub>4</sub>Me (102 g.), heated to 120.degree. in a Pyrex flask and exposed to  
the light of a 100-w. lamp, treated with 102 g. Br during 3 hrs. with  
const. agitation, gives 66% p-BrC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Br.

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